

Early conditioning and hierarchy in monkeys

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SUMMARY

It was already proved with females of Minoo-B Troop by Kawamura, and of Koshima Troop by Kawai that the social environment in the immature stage had an important effect on the determination of the future social rank of females born in the natural troop. According to the explanation hitherto been made, the life history of females likely determine their rank status through the following process: contrasting in the case of males, most of them peripheralize at the stage of from two years and a half to three years old, and then many of them solitarize at approximately seven years old, females remain in the central part through life, the mother-daughter relations continuing as long, and the dependent ranks acquired by the daughters in their infancy is fixed and preserved. Here, however, it must be marked that, in the Minoo-B Troop, observed by Kawamura, there is no critical change between the dependent ranks in earlier stage and the basic ranks in later stage, and younger daughters stand higher positions than those of elder daughters. ( while in the Koshima Troop, observed by Kawai, elders, in later stage, stand higher than youngers irrespective of the dependent ranks in earlier stage.)

It had been thought that the males', as stated above, had peripheralization, the dependent ranks obtained in infancy resolved themselves after they were outside the influence of the mothers, and there was to be established a new rank system based on one's power. (This 'power' did not necessarily mean physical strength only.) But Koyama went far of the mechanisms of ranking among males through his study on troops of Mt. Arashiyama. By Koyama's observations, the influence of consanguineous group against elder males living in the periphery, is considerable and so the influence of one's power is relatively limited.

The leader of a troop is, by monkey sense, the commander, director, and judge of the whole troop. His role is, according to Itani, 1) outwarding: protecting the troop from the invaders, 2) inside the troop: in order to keep the welfare and order, settling big and small quarrels, punishing trouble making members, and besides, deciding each action of the troop --- i.e., moving away from the feeding-place, or where to move. In Takasakiyama, caring a baby was also one of the leader's (or subleader's) parts (Itani). Of course, we have no language comparable to the monkey's signal level, on which the leader behavior takes place. Anyway usually his communications provoke proper reactions of followers who might well know of him and his status, Without these, especially without proper reactions of females belonging to higher consanguineous groups, his

situation becomes perilous because they might begin to resist him. That is, the leader is some kind of social institution based on the recognition by himself and the other members of his troop.

Now, achieving these leader roles perfectly and enjoying the recognition of the whole troop on a constantly high level cannot be done only by physical strength. Strong muscular power is, of course, an indispensable quality for a leader, but the question is -- Is any male born capable of performing all these responsibilities assigned to a leader?

Now we have nearly fourty troops of free ranging monkeys which are provisionized, but we have had no clue of learning what are the careers of their leaders. To bring this point to light, we had no other way but to record as minutely as possible the history of each of the monkeys born in the troop after the provisionization and to wait patiently, one day we saw a monkey of a certain career turn out to be a leader.

The case mentioned below, though ~~the only~~ one example, is the history of 'Toku', who was born at Takasakiyama in 1951 and became, in 1969, the most dominant leader of the Troop. His mother, Chiru, was a female of quite high status and was comparatively in close connection with the leaders. Toku, somehow or other, was not peripheralized after he was three, and then four years old, and stayed in the central part until he was finally peripheralized at the age of five. The writer, learning this, advised the observers to pay

special attention to his future history?

Later, Toku began to stand out in the peripheral part, and after 1955, when at Takasakiyama solitarization was deliberately showing its wide prevalence -- ~~dozens~~ <sup>several tens</sup> of males go solitarized every year now -- he stayed on in the Troop. He didn't join in either of the disruptions which took place twice in the Troop. He remained in the principal Troop, was ranked seventh in 1965, 4th in 1967, second in February, 1969, and since December of the same year, he has been acknowledged as the predominant leader by all the monkeys of the Troop, which fact gives no room for doubt. By the way, all the other leaders that were ranked higher than he before December, 1969, were those who had been leaders or subleaders at the earliest time when the first individual records were taken. In other words, Toku is the first leader of a new age that succeeded those male monkeys of old generation.

When the writer advised the observers to watch carefully the history of this monkey, he had this aim in mind: there might be, among the many individuals, some born with innate qualifications for leaders, but the social environment of each individual during his early stage might have some influence of the acquisition of behavior traits of a leader on him.

In a large troop as that of Takasakiyama, a baby of a peripheral female will have few chances to be in contact with a leader. On the other hand, one born as a child of

a central female has far more of such chances, and most of the babies cared by the leaders are said to be those of the central females. Though it is not made known whether Toku was cared by a leader, he was at least brought up in a wonderful environment which enabled him to be a leader later, with the leaders' behaviors before his eyes. Besides, while an average male is placed in such environment only for three years, Toku could stay there for five long years 'This Toku may become a leader!'. The writer's interest was kept on him.

The writer was then thinking that if such early conditioning formed in the social environment in childhood was to give effect on the future history of an individual, this process might be applied to what is termed 'identification' in psychoanalysis. A male child may have identified itself with a leader, specific or non-specific, of the troop. When his potentiality was realized at length and Toku became a leader, the writer was confirmed that this theory of his was substantiated to some degree. Toku, of course, did not become leader only by dint of identification. He might be also born with innate qualifications for one. If so, identification helped to nourish and strengthen the inborn trends. Or it may be that inborn trends, when added identification to, are first developed and their real nature is first made manifest.

It must be needed to refer to Toku's brother, <sup>Son</sup> Rin,

born in 1953, had no history of staying long in the central part as Toku. He moved himself to B-Troop, which branched out from the main troop.

If this theory of identification is extended to female side on the fixation of basic rank, the followings will be presumed; among the daughters of higher ranked females, the elder sisters may stand higher than the youngers, because they may realize their identification of mothers earlier than the youngers. But this assumption meets heavy contradictions. Beside of Minoo-B Troop, it was found with Arashiyama monkeys that almost all younger sisters stood higher than elders irrespective of mothers' status. We must study farther of this problem, together with the troopal difference between Koshima and Minoo-Arashiyama.